



## Complete Summary

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### TITLE

Pneumonia: percent of patients age 50 years and older, hospitalized during October, November, December, January, or February who were screened for influenza vaccine status and were vaccinated prior to discharge, if indicated.

### SOURCE(S)

Specifications manual for national hospital quality measures, version 1.04. Centers for Medicare and Medicaid Services (CMS), Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2005 Aug. various p.

## Measure Domain

### PRIMARY MEASURE DOMAIN

#### Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### SECONDARY MEASURE DOMAIN

Does not apply to this measure

## Brief Abstract

### DESCRIPTION

This measure is used to assess the percent of pneumonia patients age 50 years and older, hospitalized during October, November, December, January, or February who were screened for influenza vaccine status and were vaccinated prior to discharge, if indicated.

### RATIONALE

Influenza vaccination is indicated for people age 50 years and older because it is highly effective in preventing influenza-related pneumonia, hospitalization, and death. Vaccine coverage in the United States is suboptimal. Screening and vaccination of inpatients is recommended, but hospitalization is an underutilized opportunity to provide vaccination to adults.

## PRIMARY CLINICAL COMPONENT

Pneumonia; influenza vaccination

## DENOMINATOR DESCRIPTION

Pneumonia patients 50 years of age and older who were discharged during October, November, December, January, or February (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

## NUMERATOR DESCRIPTION

Patients discharged during October, November, December, January, or February with pneumonia, age 50 and older, who were screened for influenza vaccine status and were vaccinated prior to discharge, if indicated

## Evidence Supporting the Measure

### EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

### NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Update of practice guidelines for the management of community-acquired pneumonia in immunocompetent adults.](#)

## Evidence Supporting Need for the Measure

### NEED FOR THE MEASURE

Overall poor quality for the performance measured

### EVIDENCE SUPPORTING NEED FOR THE MEASURE

Atkinson WL, Pickering LK, Schwartz B, Weniger BG, Iskander JK, Watson JC. General recommendations on immunization. Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Family Physicians (AAFP). MMWR Recomm Rep 2002 Feb 8; 51(RR-2): 1-35. [PubMed](#)

Bartlett JG, Dowell SF, Mandell LA, File Jr TM, Musher DM, Fine MJ. Practice guidelines for the management of community-acquired pneumonia in adults. Infectious Diseases Society of America. Clin Infect Dis 2000 Aug; 31(2): 347-82. [218 references] [PubMed](#)

Fedson DS, Houck P, Bratzler D. Hospital-based influenza and pneumococcal vaccination: Sutton's Law applied to prevention. Infect Control Hosp Epidemiol 2000 Nov; 21(11):692-9. [70 references] [PubMed](#)

Kissam S, Gifford DR, Patry G, Bratzler DW. Is signed consent for influenza or pneumococcal polysaccharide vaccination required. Arch Intern Med 2004 Jan 12; 164(1):13-6. [PubMed](#)

Mandell LA, Bartlett JG, Dowell SF, File TM Jr, Musher DM, Whitney C. Update of practice guidelines for the management of community-acquired pneumonia in immunocompetent adults. Clin Infect Dis 2003 Dec 1; 37(11):1405-33. [235 references] [PubMed](#)

Niederman MS, Mandell LA, Anzueto A, Bass JB, Broughton WA, Campbell GD, Dean N, File T, Fine MJ, Gross PA, Martinez F, Marrie TJ, Plouffe JF, Ramirez J, Sarosi GA, Torres A, Wilson R, Yu VL. Guidelines for the management of adults with community-acquired pneumonia. Diagnosis, assessment of severity, antimicrobial therapy, and prevention. Am J Respir Crit Care Med 2001 Jun; 163(7):1730-54. [PubMed](#)

#### State of Use of the Measure

##### STATE OF USE

Current routine use

##### CURRENT USE

Accreditation  
Collaborative inter-organizational quality improvement  
Internal quality improvement  
Pay-for-performance

#### Application of Measure in its Current Use

##### CARE SETTING

Hospitals

##### PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

##### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

##### TARGET POPULATION AGE

Age greater than or equal to 50 years

#### TARGET POPULATION GENDER

Either male or female

#### STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

### Characteristics of the Primary Clinical Component

#### INCIDENCE/PREVALENCE

Unspecified

#### ASSOCIATION WITH VULNERABLE POPULATIONS

Many investigators have found substantial racial disparities in vaccination rates for minority populations. African American and Native American patients have the lowest rates of influenza vaccination. This disparity largely reflects differences in ambulatory vaccination rates. Lack of access to primary care, limited awareness of need for vaccination, and misconceptions about vaccination have been implicated as possible reasons for racial disparity in immunization rates. This suggests that hospitalization may be a particularly opportune time to vaccinate minority patients.

See "Burden of Illness" field.

#### EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

Bratzler DW, Houck PM, Jiang H, Nsa W, Shook C, Moore L, Red L. Failure to vaccinate Medicare inpatients: a missed opportunity. Arch Intern Med 2002 Nov 11;162(20):2349-56. [PubMed](#)

#### BURDEN OF ILLNESS

In the United States (U.S.) pneumonia is the sixth most common cause of death. From 1979-1994, the overall rates of death due to pneumonia and influenza increased by 59%. Much of this increase is due to a greater population of persons aged 65 years or older, and a changing epidemiology of pneumonia, including a greater proportion of the population with underlying medical conditions at increased risk of respiratory infection.

Influenza and pneumococcal vaccines are underutilized for Americans aged 65 years and older. Based on the 1999 Behavioral Risk Factor Surveillance System (BRFSS) survey, 66.9% received the influenza vaccine during the previous 12 months and 54.1% had ever received the pneumococcal vaccine. This underutilization is not without consequences. Influenza causes more than 100,000 excess hospitalizations and 20,000 deaths each year. Infection due to

*Streptococcus pneumoniae* accounts for at least 500,000 cases of pneumonia and 50,000 cases of bacteremia in the United States each year. The combined reporting category of influenza and pneumonia represents the fifth leading cause of death for this age group.

## EVIDENCE FOR BURDEN OF ILLNESS

Bartlett JG, Dowell SF, Mandell LA, File Jr TM, Musher DM, Fine MJ. Practice guidelines for the management of community-acquired pneumonia in adults. Infectious Diseases Society of America. Clin Infect Dis 2000 Aug; 31(2):347-82. [218 references] [PubMed](#)

Bratzler DW, Houck PM, Jiang H, Nsa W, Shook C, Moore L, Red L. Failure to vaccinate Medicare inpatients: a missed opportunity. Arch Intern Med 2002 Nov 11; 162(20):2349-56. [PubMed](#)

Influenza and pneumococcal vaccination levels among persons aged > or = 65 years--United States, 1999. MMWR Morb Mortal Wkly Rep 2001 Jun 29; 50(25):532-7. [PubMed](#)

## UTILIZATION

Annually, 2-3 million cases of community acquired pneumonia result in 10 million physician visits; 500,000 hospitalizations; and 45,000 deaths.

More than 1.1 million hospitalizations due to pneumonia each year in the U.S.

## EVIDENCE FOR UTILIZATION

Bartlett JG, Dowell SF, Mandell LA, File Jr TM, Musher DM, Fine MJ. Practice guidelines for the management of community-acquired pneumonia in adults. Infectious Diseases Society of America. Clin Infect Dis 2000 Aug; 31(2):347-82. [218 references] [PubMed](#)

Niederman MS, Mandell LA, Anzueto A, Bass JB, Broughton WA, Campbell GD, Dean N, File T, Fine MJ, Gross PA, Martinez F, Marrie TJ, Plouffe JF, Ramirez J, Sarosi GA, Torres A, Wilson R, Yu VL. Guidelines for the management of adults with community-acquired pneumonia. Diagnosis, assessment of severity, antimicrobial therapy, and prevention. Am J Respir Crit Care Med 2001 Jun; 163(7):1730-54. [PubMed](#)

## COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

## IOM CARE NEED

Staying Healthy

## IOM DOMAIN

Effectiveness

### Data Collection for the Measure

## CASE FINDING

Users of care only

## DESCRIPTION OF CASE FINDING

Discharges, 50 years of age and older, with a principal diagnosis of pneumonia or a principal diagnosis of septicemia or respiratory failure (acute or chronic) and an other diagnosis code of pneumonia who were discharged during October, November, December, January, or February

## DENOMINATOR SAMPLING FRAME

Patients associated with provider

## DENOMINATOR INCLUSIONS/EXCLUSIONS

### Inclusions

Discharges with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Principal Diagnosis Code of pneumonia or ICD-9-CM Principal Diagnosis Code of septicemia or respiratory failure (acute or chronic) and an ICD-9-CM Other Diagnosis Code of pneumonia as defined in Appendix A of the original measure documentation who are inpatients, 50 years of age and older who were discharged during October, November, December, January, or February

### Exclusions

- Patients received in transfer from another acute care or critical access hospital
- Patients who had no Working Diagnosis of pneumonia at the time of admission
- Patients who received Comfort Measures Only
- Patients who expired in the hospital
- Patients who left the hospital against medical advice (AMA)
- Patients who were discharged to hospice care
- Patients with a principal or secondary diagnosis of 487.0 (influenza with pneumonia)
- Patients who were transferred to another short-term general hospital for inpatient care, or who were discharged/transferred to a federal hospital

## DENOMINATOR (INDEX) EVENT

Clinical Condition  
Institutionalization

#### DENOMINATOR TIME WINDOW

Time window is a single point in time

#### NUMERATOR INCLUSIONS/EXCLUSIONS

##### Inclusions

Patients discharged during October, November, December, January, or February with pneumonia, age 50 and older, who were screened for influenza vaccine status and were vaccinated prior to discharge, if indicated

##### Exclusions

None

#### NUMERATOR TIME WINDOW

Institutionalization

#### DATA SOURCE

Administrative and medical records data

#### LEVEL OF DETERMINATION OF QUALITY

Individual Case

#### PRE-EXISTING INSTRUMENT USED

Unspecified

### Computation of the Measure

#### SCORING

Rate

#### INTERPRETATION OF SCORE

Better quality is associated with a higher score

#### ALLOWANCE FOR PATIENT FACTORS

Unspecified

#### STANDARD OF COMPARISON

External comparison at a point in time  
External comparison of time trends  
Internal time comparison

## Evaluation of Measure Properties

### EXTENT OF MEASURE TESTING

Unspecified

## Identifying Information

### ORIGINAL TITLE

PN-7: influenza vaccination.

### MEASURE COLLECTION

[National Hospital Quality Measures](#)

### MEASURE SET NAME

[Pneumonia](#)

### SUBMITTER

Centers for Medicare & Medicaid Services  
Joint Commission on Accreditation of Healthcare Organizations

### DEVELOPER

Centers for Medicare and Medicaid Services/Joint Commission on Accreditation of  
Healthcare Organizations

### ENDORSER

National Quality Forum

### INCLUDED IN

National Healthcare Disparities Report (NHDR)  
National Healthcare Quality Report (NHQR)

### ADAPTATION

Measure was not adapted from another source.

### RELEASE DATE

2000 Aug

### REVISION DATE



2005 Aug

## MEASURE STATUS

Please note: This measure has been updated. The National Quality Measures Clearinghouse is working to update this summary.

## SOURCE(S)

Specifications manual for national hospital quality measures, version 1.04. Centers for Medicare and Medicaid Services (CMS), Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 2005 Aug. various p.

## MEASURE AVAILABILITY

The individual measure, "PN-7: Influenza Vaccination," is published in "Specifications Manual for National Hospital Quality Measures." This document is available from the [Joint Commission on Accreditation of Healthcare Organizations \(JCAHO\) Web site](#). Information is also available from the [Centers for Medicare & Medicaid Services \(CMS\) Web site](#). Check the JCAHO Web site and CMS Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

## COMPANION DOCUMENTS

The following are available:

- A software application designed for the collection and analysis of quality improvement data, the CMS Abstraction and Reporting Tool (CART), is available from the [CMS CART Web site](#). Supporting documentation is also available. For more information, e-mail CMS PROINQUIRIES at [proinquiries@cms.hhs.gov](mailto:proinquiries@cms.hhs.gov).
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO). A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 40 p. This document is available from the [JCAHO Web site](#).
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Attributes of core performance measures and associated evaluation criteria. Oakbrook Terrace (IL): Joint Commission on Accreditation of Healthcare Organizations (JCAHO); 5 p. This document is available from the [JCAHO Web site](#).

## NQMC STATUS

This NQMC summary was completed by ECRI on January 6, 2003. The information was verified by the Centers for Medicare/Medicaid Services on March 14, 2003. This NQMC summary was updated by ECRI on October 24, 2005. The information was verified by the measure developer on December 7, 2005.

## COPYRIGHT STATEMENT

The Specifications Manual for National Hospital Quality Measures [Version 1.04, August, 2005] is the collaborative work of the Centers for Medicare & Medicaid Services and the Joint Commission on Accreditation of Healthcare Organizations. The Specifications Manual is periodically updated by the Centers for Medicare & Medicaid Services and the Joint Commission on Accreditation of Healthcare Organizations. Users of the Specifications Manual for National Hospital Quality Measures should periodically verify that the most up-to-date version is being utilized.

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Date Modified: 9/25/2006

The logo for FIRST GOV, with "FIRST" in blue and "GOV" in red, and a small red star above the "I".

